YEF, ITC-ILO and J-PAL
Evaluating Youth Programmes: An Executive Course

YEFAFRICA.ORG
Unleashing African Entrepreneurship

ITC ILO
International **Training** Centre

ABDUL LATIF JAMEEL
Poverty Action Lab
TRANSLATING RESEARCH INTO ACTION

Final report
Turin | 22 - 26 June 2015

Agenda | Lectures | Group presentations

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I.   Objective and summary of activities

One of the components of the Youth Entrepreneurship Facility (YEF) programme, a Danish government led Africa Commission initiative implemented by the ILO, is to support youth employment policy makers and promoters make evidence based decisions for better resource allocation and programme design. Over the course of 5 years, YEF has worked closely with policy makers, development practitioners and researchers to identify relevant policy issues and use rigorous impact evaluation methods to build the evidence base that will lead to informed investments in youth. While evaluation evidence is growing in the field of youth employment, there are still important knowledge gaps, particularly as relates to youth entrepreneurship in Africa. With the technical support from Abdul Latif Jameel Povery Action Lab, a research centre at the Massachusetts Institute for Technology specialized in impact evaluations, YEF organized this course with the objective to further develop the impact evaluation capacity of practitioners and policy makers involved with youth employment programme and policy design.

This advanced evaluation course was specifically targeted to those participants already "graduated" from YEF in the basic evaluation clinic which was offered in Kenya in 2010, Tanzania in 2011 and Uganda in 2012. The advanced course was organized in collaboration with and on the grounds of International Training Centre of the ILO (ITC-ILO) in Turin. The course was held from 22-26 June 2015 as a five-day workshop aimed to provide participants with an overview of randomized evaluations and pragmatic step-by-step training for conducting one's own evaluation. The goal in doing so was to introduce participants to rigorous impact evaluations and how such evaluation can be deployed in the context of labour market programmes, aiming for participants to produce and commission more rigorous evaluations in the future.

II. Course Agenda

	Monday 22 June 2015	Tuesday 23 June 2015	Wednesday 24 June 2015	Thursday 25 June 2015	Friday 26 June 2015
9:00 – 10:30	**Welcoming Remarks** *Drew Gardiner/Nicolas Serrière, ILO* **Lecture 1:** Introduction to impact evaluation *Drew Gardiner, ILO*	**Lecture 4:** How to Randomize *Bastien Michel,* *Aarhus University*	**Lecture 5:** Sampling and Sample Size *Rohit Naimpally, J-PAL*	**Lecture 6:** Threats and Analysis *Bastien Michel, Aarhus University*	**Lecture 8:** Cost-Effectiveness Analysis and Scaling Up *Rohit Naimpally, J-PAL*
10:30 – 10:45	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
10:45 – 12:00	**Lecture 2:** Evaluation Methods *Nathan Fiala,* *University of Connecticut*	**Group work on Case Study 2** How to Randomize: Labor Displacement (France)	**Exercise B:** Sample Size Estimation and Power Calculations	**Group work on Case Study 3** Threats and Analysis: Training and Subsidies (Jordan)	**Feedback survey** Finalize Presentations
12:00 – 1:00	Lunch	Lunch	Lunch	Lunch	Lunch
1:00 – 2:30	**Group work on Case Study 1** Different Evaluation Methods: Learn to Read (India) **Group work on presentation:** Research question, Theory of change, and Measurement	**Exercise A:** Randomization Mechanics	**Group work on presentation:** Power and Sample size	**Lecture 7:** Example of a youth employment evaluation from Kenya *Drew Gardiner, ILO*	**Group presentations**
2:30 – 3:00	Coffee Break	Coffee Break	Coffee Break	Coffee Break	Coffee Break
3:00 – 4:00	**Lecture 3:** Example of a youth employment evaluation from Uganda *Nathan Fiala,* *University of Connecticut*	**Group work on presentation:** Randomization design	**Group work on presentation**	**Group work on presentation:** Threats and Analysis	**Group presentations**

II. Course Contents

The course consisted of lectures, exercises and case studies. The lectures kicked off with an introduction to impact evaluations, helping the participants to contextualise impact evaluations in the broader monitoring and evaluation practices. The second lecture dove in to the necessity of randomisation. In the third lecture, experiences of running impact evaluations in Uganda were shared. Getting more practical, the fourth and fifth lecture elaborated on how to randomise, and sample respectively. In the sixth lecture, participants gained insights into the threats and errors researcher encounter when conduction impact evaluations. The last lecture introduced the topic of cost-effectiveness analyses. Lectures provided participants with an overview of these key topics, while case studies and group work on participant presentations supplemented the lectures by allowing for a deeper engagement with the material.

The material used for this course consisted of three case studies and two exercises. The case studies included (1) a study on the Learn to Read intervention in India, illustrating the benefits of randomization, (2) a study on job placement services in France, demonstrating appropriate randomisation designs and spillover management, (3) a twin-pronged intervention of Training and Subsidies in Jordan, teaching the participants the basics of calculating impact and classic threats to an impact evaluation's validity. The exercises focused on the mechanics of randomization using Microsoft Excel, and the theory and practice of conducting power calculations using Optimal Design. All cases and exercises were distributed to course participants in bound packets at the beginning of the course.

All lectures and presentations were adapted to make them relevant to the participants at the workshop. As with the development of the Training and Subsidies case study, care was taken to make sure that the lectures focused on examples relevant to an audience focused on labour market interventions and programmes. At the end of each day, the presentations used for lectures were uploaded to the public drive so that participants could review the material, and apply the insights to their presentations.
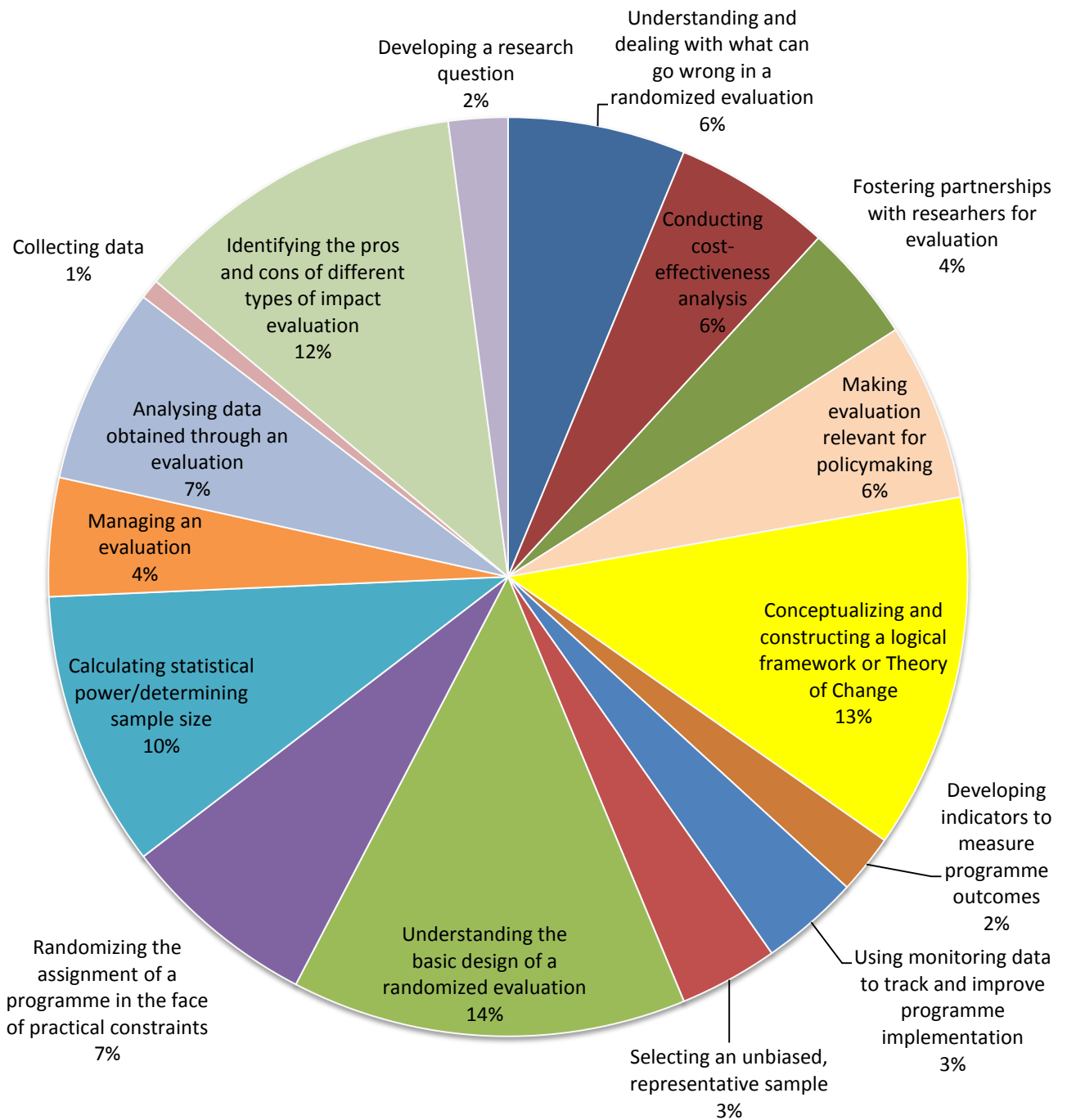
III.   Results of Course Evaluations

Results from Participants' Goals Assessment

The chart below illustrates the topics that participants wanted to learn the most about through the course. They selected and ranked 4 topics from a list of 18 that was provided to them (a copy of the goals sheet can be found in Appendix B). While 12 of the topics are explicitly covered throughout the course (in varying levels of detail), the following topics are mentioned only in passing:

- Managing an evaluation
- Using monitoring data [to track and improve programme implementation]
- Conducting cost-effectiveness analysis
- Making evaluation relevant for policymaking
- Scaling up effective interventions
- Fostering partnerships with researchers for evaluation

These topics were included to gauge participants' interest in issues related to evaluation but not covered in the course. The information in the following graphs will shed light on how well potential participants for the course were targeted and will be useful in shaping the curriculum for following courses.

Identified Personal Course Goals

Developing a research question
2%

Understanding and dealing with what can go wrong in a randomized evaluation
6%

Conducting cost-effectiveness analysis
6%

Fostering partnerships with researhers for evaluation
4%

Making evaluation relevant for policymaking
6%

Conceptualizing and constructing a logical framework or Theory of Change
13%

Developing indicators to measure programme outcomes
2%

Using monitoring data to track and improve programme implementation
3%

Selecting an unbiased, representative sample
3%

Understanding the basic design of a randomized evaluation
14%

Randomizing the assignment of a programme in the face of practical constraints
7%

Calculating statistical power/determining sample size
10%

Managing an evaluation
4%

Analysing data obtained through an evaluation
7%

Collecting data
1%

Identifying the pros and cons of different types of impact evaluation
12%

Several issues that the course covers in detail were selected by the most number of participants as goals that they had for the course: Understanding the basic design of a randomized evaluation, Conceptualizing and constructing a logical framework or Theory of Change, Randomizing Programme Assignment and Identifying the pros and cons of different types of impact evaluation being the top three.

Results from Participant Quiz

Both at the beginning and end of the course, participants were tested anonymously on the major concepts presented in the course (a set of questions covering each topic-specific lecture). The baseline and endline quizzes can be found in Appendices B and C, respectively. Comparing the mean results of the two quizzes with a t-test, we find the group to overall have a significant improvement of 11 percentage points (P one tail < alpha 0,05).

	Overall	What is Evaluation	Why Randomise	How to Randomise	Measuring Impact	Power & Sample Size	Threats and Analysis
Mean score baseline quiz	33.7	65.5	32.7	31.5	27.5	10.0	29.2
Mean score endline quiz	44.7	71.4	39.1	48.4	40.9	25.7	40.0
Difference	11.0*	6.0	6.4	16.9*	13.4*	15.7*	10.8
Variance	134.6	966.5	385.1	470.6	178.0	245.2	758.0
Hypothesized Mean Difference	0.0	0.0	0.0	0.0	0.0	0.0	0.0
df	43.0	42.0	43.0	43.0	37.0	40.0	42.0
t Stat	-3.2	-0.7	-1.0	-2.5	-2.5	-2.7	-1.4
P(T<=t) one-tail	0.00	0.25	0.16	0.01	0.01	0.00	0.09
t Critical one-tail	1.68	1.68	1.68	1.68	1.69	1.68	1.68
P(T<=t) two-tail	0.00*	0.51	0.31	0.02*	0.02*	0.01*	0.18
t Critical two-tail	2.02	2.02	2.02	2.02	2.03	2.02	2.02

Significant at Alpha 0,05 level

Note: differences in the average results of the quizzes' respective components that are insignificant and can be distortive due to the small sample size and high variance. Reporting on such results requires paired sampling, hence identified quiz-takers.

The largest and significant differences between the baseline and endline quizzes were measured at the How to Randomise, Power & Sample Size and Measuring Impact elements of the quizzes, indicating that the course participants improved their knowledge in these topics. This encouraging result does have its limitations. At this point it is not clear to what extent the measured increase of knowledge will last. Also, as described in the note, the methods of testing did not allow us to gain insights into the variance of improvement across the different elements of the course. In future courses it would therefore be useful to identify the quiz takers, which allows the evaluator to measure improvement on the individual level, and measure improvement

on the respective elements of the test. Regarding the longevity of the measured improvement, a follow-up quiz and a follow-up survey would be recommendable to see if the course has had a long-lasting effect in terms of knowledge and increase of involvement in impact evaluations.

Results Evaluation Questionnaire

A written evaluation filled out by the participants shows that the course was considered useful and informative. The participants' suggestions to improve the course mainly relate to the use of the clickers (a presentation tool), and the use of research jargon.

A standard ITC questionnaire was made available online, which had a response rate of 76.9%. The questionnaire consisted of 13 questions related to the activity itself (contents, resource persons and organisation), 22 questions related to the campus in general and 5 open questions for written comments.

The average results for campus-related questions were higher than the 2014 benchmark, indicating a high level of satisfaction among the group. The questions that have obtained a markedly lower score are those about the availability of preliminary information (65%), about the gender dimension (44%) and group working relations (80%).

These results indicate that overall the course was very well received and appreciated by the group. 90% percent of respondents are satisfied or very satisfied in terms of the course reaching its objectives, and 100% agree that the course is relevant to their jobs. The secretariat, with 100% of satisfaction, also deserves a special mention.

The relatively low scores to the above-mentioned 3 questions point to areas of possible improvement. It must be underlined, however, that the results of the questions on the gender dimension of the training is subject to the level of awareness about gender issues which tends to vary among members of the group. Bringing the level of satisfaction to acceptable levels would require to both introduce a specific session on gender statistics and indicators, as well as to mainstream gender issues throughout the sessions of the course.

Improving the provision of preliminary information is easier. Future versions of the course could include an online part including (i) all necessary practical information, and (ii) introduce a preliminary assignment. This assignment could also help harmonising the level of knowledge among participants and prepare better participants to the on-course exercises.

Targeted pedagogical tools, such as energizers, more supervision on the intra-group division of labour and country experience sharing sessions, could improve group-working relations.
Questions related to the learning methods and material quality obtained high satisfaction rates, indicating the case-studies and exercises were well appreciated. Considering that 95% of participants are satisfied or highly satisfied with the course overall quality, future changes should mainly consist of slight changes rather than overhauling the course contents.

Based on the results of the quizzes, the quality of the presentations and the written evaluation that came with the endline quiz, the training has achieved its objective of improving the impact evaluation capacity of practitioners, researchers and policymakers in the field of youth employment.

IV. Group Presentations

Throughout the course, participants worked in small groups to design an evaluation and apply the concepts they were learning in the lectures. Participants were encouraged to bring ideas for programmes to evaluate from their organizations. On the final day of the course, participant groups delivered brief presentations on the evaluation they designed during the course of the week. The presentations delivered were as follows:

Group 1. **Evaluating the Youth Entrepreneurship Venture Capital Fund in Uganda.** The group designed a phase-in randomized evaluation to test the effect of training and finance on the business survival rate and loan repayment, social stability and socio-economic outcomes. Based on a power calculation, the group designed their cluster-level randomised evaluation to treat/control a sample of 40 people in each of Uganda's 110 districts. Please find the presentation [here](#).

Group 2. **Promoting Youth Employment through Entrepreneurship Trainings, Mentorship and Start-up Capital.** Group 2 designed an evaluation of an entrepreneurship programme providing university graduates with trainings, mentorship and start-up capital to assess its impact on self-employment. A power calculation based on an effect size of 7%, brought about an estimation of a required 3195 graduates in the treatment and control group respectively. Have a look at the presentation [here](#).

Group 3. **Evaluation Trauma Healing Training among Youth/Community Members.** The group focussed on the conflict affected communities living along the borders of Kenya with Uganda, South Sudan, Ethiopia and Somalia. The village clustered randomized evaluation, stratified by region, requires a power-calculated 450 communities; half of which will receive the healing intervention and half of which will remain the control group. By measuring the treated' psychological health, social skills and violent behaviour the group aims to evaluate an impact of the training on social skills, livelihood and behavioural violence. Please have a look at their presentation [here](#).

Group 4. **Evaluating the Skills for Job Program component of Nigeria's Youth Employment and Social Support Operation (YESSO).** Group 2 designed a phase-in cluster evaluation of Nigeria's national program which provides youths with career orientation training, trainings, internships and Starter Packs. Targeting the poverty segment, the group performed a cluster-level power calculation on the required number Local Government Areas and estimate a respective treatment and control size of 180 LGAs, to be assessed on the outcome indicators of job placement and continuation. Please find the presentation [here](#)**.**

Group 5. **Girl's Empowerment: The Best Contraceptive in Tanzania?** Group 4 designed a basic lottery impact evaluation of an entrepreneurship and sexual health training programme in Tanzania. By targeting secondary school low-performing graduates and drop-outs with this twin-pronged intervention, the programme aims to break the low

empowerment equilibrium (low human capital and high fertility rates). A range of rates of effect size, partial compliance, ICC and co-variance led the group to estimate a sample size ranging from 2650 to 21400, to assess the programme's impact on income generating activities with 80% power. Find the presentation [here](#).

Appendix A: Course Participants and Staff

AUSTRALIA

Full Name:	Ms. Kate WILLIAMS	1
Institution:	World Vision Australia	

ETHIOPIA

Full Name:	Mr. Zenayeneh Girma WOLDEYOHANNIS	2
Institution:	Youth and Cultural Development Foundation (YCDF)	

INDIA

Full Name:	Mr. Puneet GUPTA	3
Institution:	Catalyst Management Services Pvt. Ltd.	

ITALY

Full Name:	Ms. Emiah Claire Louise BILSKI	4
Institution:	International Fund for Agricultural Development/IFAD	

KENYA

Full Name:	Mr. Ehud Mukuha GACHUGU	5
Institution:	Kenya Private Sector Alliance (KEPSA)	

KENYA

Full Name:	Ms. Roselyn Wangui GAKURE	6
Institution:	Jomo Kenyatta University of Agriculture & Technology (JKUAT)	

KENYA

Full Name:	Mr. Josiah Imbayi MUKOYA	7
Institution:	Pact International	

KENYA

Full Name:	Ms. Boaz Omori MUNGA	8
Institution:	Kenya Institute for Public Policy Research and Analysis	

KENYA

Full Name:	Ms. Huka Maryjoyce SHARU	9
Institution:	Youth Enterprise Development Fund (YEDF)	

KENYA

Full Name:	Mr. Gordon Otieno WANZARE	10
Institution:	Step Up Social Enterprise	

NETHERLANDS

Full Name:	Mr. Anthony GONZALEZ	11
Institution:	SPARK	

NIGERIA

Full Name:	Mr. Abubakar Atiku MUSA	12
Institution:	Youth Employment and Social Support Operation (YESSO)	

RWANDA

Full Name:	Mr. Emmanuel HAKIZIMFURA	13
Institution:	SPARK	

RWANDA

Full Name:	Mr. Desire MUSHUMBA	14
Institution:	SPARK	

SUDAN

Full Name:	Ms. Rajaa Omer MOHAMED	15
Institution:	UN/AU Hybrid Mission in Darfur (UNAMID)	

TANZANIA			
	Full Name:	Ms. Kokushubila KABANZA	16
	Institution:	International Labour Organization	

TANZANIA			
	Full Name:	Ms. Doris Ndewa LIKWELILE	17
	Institution:	Economic and Social Research Foundation (ESRF)	

TANZANIA			
	Full Name:	Mr. Oscar Raphael MKUDE	18
	Institution:	Association of Tanzania Employers (ATE)	

TANZANIA			
	Full Name:	Mr. Gabriel Wilhelm SULE	19
	Institution:	International Labour Organization	

UGANDA			
	Full Name:	Mr. Fred BASEKE	20
	Institution:	International Labour Organization	

UGANDA			
	Full Name:	Ms. Madinah FRIDAY	21
	Institution:	Ministry of Gender, Labour and Social Development (MGLSD)	

UGANDA			
	Full Name:	Ms. Madina Mwagale GULOBA	22
	Institution:	Economic Policy Research Centre (EPRC)	

UGANDA			
	Full Name:	Mr. Ibrahim KASIRYE	23
	Institution:	Economic Policy Research Centre (EPRC)	

UGANDA			
	Full Name:	Mr. Robert Stephen MAWANDA	24
	Institution:	International Labour Organization	

UGANDA			
	Full Name:	Ms. Rebecca NAMATOVUDAWA	25
	Institution:	Makerere University Business School	

UGANDA			
	Full Name:	Mr. Douglas OPIO	26
	Institution:	Federation of Uganda Employers (FUE)	

ZIMBABWE			
	Full Name:	Mr. Dowsen SANGO	27
	Institution:	SNV Netherlands Development Organization	

Resource Persons

DENMARK			
	Full Name:	Mr. Bastien MICHEL	1
	Institution:	Aarhus University & TrygFonden's Centre for Child Research	

ITALY			
	Full Name:	Mr. Nicolas SERRIÈRE	2
	Institution:	International Training Centre of the ILO	

SWITZERLAND

Full Name:	Mr. Drew GARDINER		3
Institution:	International Labour Organization		

SWITZERLAND

Full Name:	Mr. Jurriaan LINSEN		4
Institution:	International Labour Organization		

USA

Full Name:	Mr. Nathan FIALA		5
Institution:	University of Connecticut		

USA

Full Name:	Mr. Rohit NAIMPALLY		6
Institution:	University of Connecticut		

Appendix B: Course Goal Worksheet

<u>What are your goals for the course?</u>

In order to gauge how well our course is matching our participants' interests, we would like to know what participants' goals are going into the course.

Please rank the **<u>4 topics</u>** that most interest you or that you are hoping to learn the most about during the course (indicate your most important goal with a "1", and continue up to "4" in order of decreasing importance):

Understanding what evaluation is and why it is valuable	
Conceptualizing and constructing a logical framework or Theory of Change	
Developing a research question	
Developing indicators to measure programme outcomes	
Identifying the pros and cons of different types of impact evaluation	
Understanding the basic design of a randomized evaluation	
Randomizing the assignment of a programme in the face of practical constraints	
Calculating statistical power/determining sample size	
Selecting an unbiased, representative sample	
Managing an evaluation	
Collecting data	
Using monitoring data to track and improve programme implementation	

Understanding and dealing with what can go wrong in a randomized evaluation	
Analysing data obtained through an evaluation	
Conducting cost-effectiveness analysis	
Making evaluation relevant for policymaking	
Scaling up effective interventions	
Fostering partnerships with researchers for evaluation	

Appendix C: Course Participant Baseline Quiz

Pre-Course Assessment

Here is a short survey that poses questions about the various topics covered throughout the course. Please answer the questions to the best of your ability. They will provide us with useful information about how well the course teaches key concepts.

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1. **Suppose your NGO seeks to launch a chlorine distribution programme to improve access to clean water for its beneficiary households. Please indicate which aspect of programme evaluation (numbered below) is most appropriate for:**

Measuring the effects of chlorine distribution on important health indicators for beneficiary households	
Following whether or not chlorine is actually distributed to beneficiary households	
Constructing a model to describe how chlorine distribution could lead to outcomes of interest (e.g. reduced incidence of diarrhoea in children)	
Comparing the health improvements per dollar spent on the chlorine distribution programme with health improvements per dollar spent on other clean water programmes	
Identifying the prevalence of diarrhoea and the subpopulation that does not currently have access to clean water	

1. Needs Assessment
2. Programme Theory Assessment
3. Process Evaluation
4. Impact Evaluation
5. Cost Effectiveness Analysis

---

2. **Define the counterfactual:**

3. **a. What is the key problem with the counterfactual?**

    A. Cannot be mimicked or estimated

    B. It is not comparable with the treatment group

    C. Cannot be measured or observed

    D. Its outcomes are influenced by different factors

    E. All of the above

b. Why is random assignment the best method to deal with this problem?

    A. Ensures the external validity of the experiment

    B. Ensures that treatment and control groups don't differ systematically at the outset of the programme

    C. Ensures that everyone has equal probability of getting the intervention

    D. All of the above

4. **What is required for selection bias?**

    A. Programme participation is correlated with an observable or unobservable characteristic

    B. Outcome variable is correlated with an observable or unobservable characteristic

    C. Omitted variable bias

    D. All of the above

5. **True or False: In a randomized evaluation, failure to control for other variables that are correlated with your outcome measure will *systematically* bias results.**

TRUE	FALSE

6. **Your NGO wants to produce a logical model about how their chlorine distribution programme will improve health outcomes for beneficiary households. Please complete the model with numbered items below that correspond to each category (Just write numbers. Some columns may have multiple answers.):**

Needs	Input	Output	Outcome	Impact (primary outcome)	Long-Term Goal

1. Households use chlorine to purify their water
2. Households learn how to use chlorine
3. Chlorine distribution programme
4. Reduced prevalence of child diarrhoea
5. Households receive chlorine
6. Households do not have access to clean water
7. Prevalence of diarrhoea (especially for children) is high
8. Reduced child mortality
9. Households consume more clean water

7. **Which numbered items listed above can be measured using the following indicators/survey questions? (Multiple answers possible)**

Have any of your children had diarrhoea within the last week?	
Concentration of parasites/bacteria in household water supply.	
Do you drink purified water?	

8. **What bias might we expect if we asked this question after our chlorine distribution programme: "Do you use chlorine in your water"**

1. Social desirability bias
2. Framing effect
3. Recall bias
4. Omitted variable bias
5. Sample selection bias
6. Anchoring bias

9. **The concern with a self-reported measure of chlorine use is one of _____ - it suffers from social desirability bias since respondents know the "right" answer is that they use chlorine. The concern with a self-reported measure of diarrhoea in the past day is one of _____ - it may be noisy because incidents of diarrhoea occur only periodically.**

   1. Reliability, sample size
   2. Validity, reliability
   3. Reliability, validity
   4. Sample size, validity

10. **Please indicate (by circling) whether the following factors increase (⇑), decrease (⇓), do not influence (=), or have an ambiguous effect (?) on the sample size needed in a study:**

Larger expected (and relevant) effect size	⇑	⇓	=	?
Increased variance of the final outcome variable	⇑	⇓	=	?
Conducting a baseline survey (or using covariates)	⇑	⇓	=	?
Higher intra-cluster correlation (rho)	⇑	⇓	=	?
Stratification	⇑	⇓	=	?

11. **True or False: Using the wrong assumptions (for example, regarding variance or effect size) in your power calculations could bias your impact estimate (i.e. lead to an inaccurate impact estimate).**

TRUE	FALSE

12. **Please indicate which method of randomization (numbered below) is most appropriate if:**

Your chlorine distribution programme expands over time and must be provided to all of your beneficiaries eventually	
Your chlorine distribution programme must be open to everyone who wants to receive it, but take up of chlorine can easily be improved by providing incentives to a randomly assigned group of your beneficiaries	
All of your beneficiaries must receive chlorine through your programme at some point in the next two years, but you only have enough resources to provide chlorine to half of the beneficiaries each year	
Your chlorine distribution programme is oversubscribed; not everyone will receive your program	

   a. Rotation
   b. Basic Lottery
   c. Phase-In
   d. Encouragement

13. **As part of a chlorine distribution programme, your NGO installs chlorine dispensers at the village's main water source. At which level is it best to randomize the assignment of this program?**

    a. The individual level
    b. The household level
    c. The catchment area of the well
    d. The district in which your NGO operates

    Explain your choice of randomization level:

14. **Please indicate (by circling) whether the following challenges are likely to cause you to overestimate (⇑), or underestimate (⇓) the impact of the chlorine distribution programme, or whether they will have no effect (=) or ambiguous effect (?) on your impact estimate:**

The healthier individuals in the treatment group migrate to cities for work	⇑	⇓	=	?
20% of your treatment group drops out of the study AND 20% of your control group drops out of the study	⇑	⇓	=	?
During the intervention period, some individuals in the control group drink chlorinated water from treatment group households even though they were not targeted to receive chlorine	⇑	⇓	=	?
Prior to the intervention, wealthy individuals in the control group already purchased chlorine to purify their water. When they found out that neighbouring villages were receiving chlorine for free through the programme, they became upset and refused to respond to the survey.	⇑	⇓	=	?

Appendix D: Course Participant Endline Quiz

Review and Feedback

Here is a short survey that reviews the various topics covered throughout the course. Please answer the questions to the best of your ability. It will provide J-PAL with useful information about how well the course teaches key concepts.

At the end of this form, there is space for you to provide comments about any of the lectures/lecturers, case studies, and exercises throughout the course.

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1. **Suppose your NGO seeks to launch a monitoring programme using cameras in schools to increase teacher attendance. At the beginning and end of each day, the teacher takes a picture of themself with their students using a tamper-proof date-stamped digital camera to verify their attendance. Please indicate which aspect of programme evaluation (numbered below) is most appropriate for:**

Constructing a model to describe how teacher monitoring could lead to outcomes of interest (e.g. better child learning outcomes)	
Deciding whether to invest in a camera-monitoring programme with your limited budget or some other programme that targets teacher attendance	
Measuring the effects of teacher monitoring on child learning outcomes	
Following whether or not cameras are actually supplied to participating schools	
Identifying the prevalence of teacher absenteeism and low-achievement among students	

    a. Needs Assessment
    b. Programme Theory Assessment
    c. Process Evaluation
    d. Impact Evaluation
    e. Cost Effectiveness Analysis

---

2. **Define the counterfactual:**

3.   **a. What is the key problem with the counterfactual?**

    A. Cannot be mimicked or estimated

    B. It is not comparable with the treatment group

    C. Cannot be measured or observed

    D. It's outcomes are influenced by different factors

    E. All of the above

    b. Why is random assignment the best method to deal with this problem?

    A. Ensures that different groups don't react differently to the program

    B. Ensures the external validity of the experiment

    C. Ensures that treatment and control groups don't differ systematically at the outset of the program

    D. Ensures that everyone has equal probability of getting the intervention

    E. All of the above

4. What is required for selection bias?

    A. Programme participation is correlated with an observable or unobservable characteristic

    B. Outcome variable is correlated with an observable or unobservable characteristic

    C. Omitted variable bias

    D. All of the above

5. True or False: In a randomized evaluation, failure to control for other variables that are correlated with your outcome measure will *systematically* bias results.

TRUE	FALSE

6. Please indicate which method of randomization (numbered below) is most appropriate if:

All of your beneficiaries must receive cameras through your programme at some point in the next two years, but you only have enough resources to provide cameras to half of the beneficiaries each year	
Your monitoring programme is oversubscribed; not everyone will receive your program	
Your monitoring programme expands over time and must be provided to all of your beneficiaries eventually	
Your monitoring programme must be open to everyone who wants to receive it, but take up of the programme can easily be improved by providing incentives to a randomly assigned group of your beneficiaries	

    a. Basic Lottery
    b. Phase-In
    c. Rotation
    d. Encouragement

7. At the beginning and end of each day, the teacher takes a picture of themself with their students using a tamper-proof date-stamped digital camera. At which level is it best to randomize the assignment of this program?

    a. The student level
    b. The classroom level
    c. The school level
    d. The village level
    e. The district in which your NGO operates

Explain your choice of randomization level:

8. **Your NGO wants to produce a logical model about how their monitoring programme will improve child test scores for beneficiary schools. Please complete model with the numbered items below that correspond to each category:**

Needs	Input	Output	Outcome	Impact (primary outcome)	Long-Term Goal

  a. NGO districts give performance rewards to teachers with high attendance
  b. Schools have high teacher absenteeism
  c. Teachers use cameras to verify their own attendance
  d. Children have low test scores
  e. The monitoring program
  f. Teachers attend school more often
  g. Higher child test scores
  h. Schools receive cameras
  i. Improved learning and better job opportunities

9. **Which numbered items listed above can be measured using the following indicators/survey questions? (Multiple answers possible)**

Number of pictures taken using the camera	
Test scores of children	
Which of your teachers are present today?	

10. **Please indicate (by circling) whether the following challenges are likely to cause you to overestimate (⇑), or underestimate (⇓) the impact of the monitoring programme, or whether they will have no effect (=) or ambiguous effect (?) on your impact estimate:**

During the intervention period, some schools in the control group buy cameras to monitor teachers even though they were not targeted to receive the programme	⇑	⇓	=	?
Prior to the intervention, high achieving schools in the control group already had some kind of monitoring practices in place. When they found out that neighbouring schools were receiving cameras (an improved monitoring technique) for free through the programme, they became upset and refused to let the NGO administer tests in their school.	⇑	⇓	=	?
Parents of low performing kids in the control schools transfer their kids to treatment schools in the middle of the school year.	⇑	⇓	=	?
15% of your treatment group drops out of the study AND 15% of your control group drops out of the study	⇑	⇓	=	?

11. **What bias might we expect if we asked teachers in our study this question: "Do you use show up in school on a regular basis?"**

7. Social desirability bias
8. Framing effect
9. Recall bias
10. Omitted variable bias
11. Sample selection bias
12. Anchoring bias

12. **The concern with a self-reported measure of test scores is one of _____ - it suffers from social desirability bias since respondents know the "right" answer is that they scored highly on tests. This is in contrast with a self-reported measure of serious illness, where the issue is one of _____ - it may be noisy because serious illnesses occur only periodically.**

   5. Reliability, sample size
   6. Validity, reliability
   7. Reliability, validity
   8. Sample size, validity

13. **Please indicate (by circling) whether the following factors increase (⇑), decrease (⇓), do not influence (=), or have an ambiguous effect (?) on the sample size needed in a study:**

Larger expected (and relevant) effect size	⇑	⇓	=	?
Higher intra-cluster correlation	⇑	⇓	=	?
Stratification	⇑	⇓	=	?
Increased variance of the final outcome variable	⇑	⇓	=	?
Conducting a baseline survey (or using covariates)	⇑	⇓	=	?

14. **True or False: Using the wrong assumptions (for example, regarding variance or effect size) in your power calculations could bias your impact estimate (i.e. lead to an inaccurate impact estimate).**

TRUE	FALSE

Course Feedback

Please use this space to provide comments or suggestions related to the course:

Please share your views about the clicker technology used for improving course interactivity and the difficulty level of questions in the space below: